1. (Original) A gas turbine capable of operating in a highly diluted mode, the gas turbine comprising:

a compressor adapted to compress oxidant;

a combustion chamber adapted to accept the compressed oxidant and including an exit means for flue gas;

a turbine; and

a flue gas re-circulation means for re-circulating the flue gas from the combustion chamber and mixing the flue gas with the compressed oxidant from the compressor to provide a highly diluted mode of combustion with a flue gas re-circulation rate of from 100% to 200%.

2. (Original) A gas turbine according to Claim 1, wherein the flue gas re-circulation means is for providing a flue gas re-circulation rate of from 100% to 150%.

3. (Original) A gas turbine according to claim 1, wherein the flue gas re-circulation means is for providing flue gas re-circulation inside the combustion chamber.

4. (Original) A gas turbine according to claim 1, wherein the flue gas re-circulation means is for providing flue gas re-circulation outside the combustion chamber.

5. (Original) A gas turbine according to Claim 4, wherein the flue gas re-circulation means is for re-circulating flue gas that exits the turbine.

6. (Original) A gas turbine according to Claim 5, wherein the gas turbine is adapted to cool the re-circulated flue gas that exits the turbine and to feed the re-circulated flue gas that exits the turbine into the compressor along with the oxidant.

7. (Original) A gas turbine according to claim 1, wherein the flue gas re-circulation means comprises means inside and outside the combustion chamber.

8. (Original) A gas turbine according to claim 1, wherein the flue gas re-circulation means is for mixing the re-circulated flue gas with a premixed stream of fuel and oxidant before the premixed stream enters the combustion chamber.

9. (Original) A gas turbine according to claim 1, further comprising:
an oxidant pre-heating means for heating the compressed oxidant before said compressed oxidant enters the combustion chamber.

10. (Original) A gas turbine according to Claim 9, wherein the oxidant pre-heating means comprises a heat exchanger adapted to use the heat of gas exited from the turbine to heat the compressed oxidant.

11. (Original) A gas turbine according to Claim 10, wherein the heat exchanger comprises a recuperator or a regenerator.

12. (Original) A gas turbine according to Claim 10, wherein the heat exchanger is arranged to cool re-circulated flue gas exited from the turbine.

13. (Original) A gas turbine according to Claim 10, wherein the oxidant pre-heating means comprises an external heat source.

14. (Original) A gas turbine according to Claim 13, wherein the external heat source comprises a catalytic pre-burner.

15. (Original) A gas turbine according to claim 1, wherein the oxidant is oxygen.

16. (Original) A flameless steam injected gas turbine comprising:
a gas turbine according to Claim 1; and

a steam generator adapted to produce steam using energy from the flue gas that exits the turbine, and to feed said steam into the combustion chamber in order to dilute the oxidant and fuel mixture.

17. (Original) A flameless steam injected gas turbine according to Claim 16, wherein the flameless steam injected gas turbine is configured and arranged to operate a closed loop system, and further comprising:

a condenser adapted to condense the steam and re-introduce resulting water into the steam generator.

18. (Original) A flameless steam injected gas turbine according to Claim 16, wherein the flameless steam injected gas turbine is configured and arranged to operate an open loop system, and further comprising:

means for continuously topping up the steam generator with water.

19. (Original) A flameless steam injected gas turbine according to Claim 16, further comprising:

means for feeding a portion of the steam produced by the steam generator into the turbine to increase the power output of the turbine.

20. (Original) A method of operating a gas turbine comprising:

using a compressor to compress oxidant;

using a combustion chamber to accept the compressed oxidant and provide an exit means for flue gas;

using a turbine; and

using a flue gas re-circulation means to re-circulate the flue gas from the combustion chamber and mix the flue gas with the compressed oxidant from the compressor in order to provide a highly diluted mode of combustion with a flue gas re-circulation rate of from 100% to 200%.

21. (Original) A method according to Claim 20, further comprising:

using the flue gas re-circulation means to provide a flue gas re-circulation rate of from 100% to 150%.

22. (Original) A method according to Claim 20, comprising:

using the flue gas re-circulation means to provide flue gas re-circulation inside the combustion chamber.

23. (Original) A method according to Claim 20, comprising:

using the flue gas re-circulation means to provide flue gas re-circulation outside the combustion chamber.

24. (Original) A method according to Claim 23, further comprising:

using the flue gas re-circulation means to re-circulate flue gas that exits the turbine.

25. (Original) A method according to Claim 24, further comprising:

cooling the re-circulated flue gas that exits the turbine before feeding said flue gas that exits the turbine into the compressor along with the oxidant.

26. (Original) A method according to Claim 20, comprising:

using the flue gas re-circulation means to provide flue gas re-circulation by a combination of means inside and outside the combustion chamber.

27. (Original) A method according to Claim 20, comprising:

using the flue gas re-circulation means to mix the re-circulated flue gas with a premixed stream of fuel and oxidant before the premixed stream enters the combustion chamber.

28. (Original) A method according to Claim 20, comprising:

using an oxidant pre-heating means to heat the compressed oxidant before said compressed oxidant enters the combustion chamber.

29. (Original) A method according to Claim 28, further comprising:
using a heat exchanger to provide the oxidant pre-heating means; and
employing the heat exchanger to heat the compressed oxidant using the heat of gas exited from the turbine.

30. (Original) A method according to Claim 29, further comprising:
providing the heat exchanger including a recuperator or a regenerator.

31. (Original) A method according to Claim 29 , comprising:
using the heat exchanger to cool the re-circulated flue gas exited from the turbine.

32. (Original) A method according to Claim 29, comprising:
using an external heat source to provide the oxidant pre-heating means.

33. (Original) A method according to Claim 32, further comprising:
using a catalytic pre-burner to provide the external heat source.

34. (Original) A method according to Claim 20, comprising:
using oxygen as the oxidant.

35. (Original) A method of operating a flameless steam injected gas turbine comprising:
using a gas turbine according to Claim 1;
using a steam generator to produce steam using energy from the flue gas that exits the turbine; and
feeding the steam into the combustion chamber in order to dilute the oxidant and fuel mixture.

36. (Original) A method of operating a flameless steam injected gas turbine according to Claim 35, comprising:
operating said flameless steam injected gas turbine as a closed loop system; and

using a condenser to condense the steam and re-introduce resulting water into the steam generator.

37. (Original) A method of operating a flameless steam injected gas turbine according to Claim 36, comprising:

operating said flameless steam injected gas turbine as an open loop system; and

continuously topping up the steam generator with water.

38. (Original) A method of operating a flameless steam injected gas turbine according to Claim 33, further comprising:

feeding a portion of the steam produced by the steam generator into the turbine in order to increase the power output of the turbine.

39. (Original) A gas turbine according to Claim 11, wherein the flue gas re-circulation means is for providing flue gas re-circulation outside the combustion chamber;

wherein the flue gas re-circulation means is for re-circulating flue gas that exits the turbine; and

wherein the heat exchanger is adapted to cool re-circulated flue gas exited from the turbine.

40. (Original) A method according to Claim 30, comprising:

using the flue gas re-circulation means to provide flue gas re-circulation outside the combustion chamber;

using the flue gas re-circulation means to re-circulate flue gas that exits the turbine; and

using the heat exchanger to cool the re-circulated flue gas exited from the turbine.

41. (New) A gas turbine according to claim 1, wherein said compressor is adapted to heat said oxidant by compression work in said compressor.

42. (New) A method according to claim 20, further comprising:
heating the oxidant with compression work by the compressor.